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REMARKS

Applicants wish to thank the Examiner for the attention accorded to the instant application. Applicants respectfully request entry of the amendment, as it puts the application in condition for allowance.

Claims 16-36 are pending in this application. Applicants have canceled claims 1-15 to reflect the election taken on August 29, 2003.

I. Claim Rejections – 35 U.S.C. § 103

The Examiner has rejected all of the pending claims under 35 U.S.C. §103 as being unpatentable over various references and combinations thereof, including U.S. Patent No. 4,456,336 to Chung et al. ("Chung"), JP406138458A to Yokoo et al. ("Yokoo"), U.S. Patent No. 4,417,412 to Sansom ("Sansom"), U.S. Patent No. 6,004,315 to Dumont ("Dumont") U.S. Patent No. 6,188,460 to Faris ("Faris"), and JP357089706 to Obuka ("Obuka").

The Examiner has rejected claims 16-20, 22, 24-26, 31 and 32 as being unpatentable over Yokoo in view of Chung. The Examiner has rejected claim 21 as being unpatentable over Yokoo in view of Chung in further view of Sansom. The Examiner has rejected claims 23, 33 and 34 as being unpatentable over Yokoo in view of Chung in further view of Dumont. The Examiner has rejected claims 27-30 and 36 as being unpatentable over Yokoo in view of Chung in further view of Faris. The Examiner has additionally rejected claim 35 as being unpatentable over Yokoo in view of Chung in further view of Obuka.

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Applicants have amended claims 16, 31 and 36 to more clearly point out and distinctly claim the subject matter of the invention. Applicants respectfully request entry of the amendment. Specifically, claims 16, 31 and 36 have been amended to recite that light energy comes from the light energy is from the optical fibers and that the optically downstream side of the optical fibers transmits light energy incident in a plane normal to the plane of the reflective layer. Applicants respectfully submit that amended independent claims 16, 31 and 36 are now allowable over the cited references.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references) must teach or suggest all of the claim limitations. In re Vaack, 947 F.2d 488 (Fed. Cir. 1991).

Yokoo is directed to a backlight system for a liquid crystal display. As stated in the translated abstract, Yokoo provides transmitted light by guiding the light to "all the surface of the transmission body by a light guiding layer 3a, reflected on the front surface by a reflection layer 4b, and emitted to a liquid crystal panel 5 provided with directivity by a prism 4c, thereby attaining liquid crystal display." Yokoo also shows in Fig. 1 and Fig. 2 the optical fiber 3 being guided by the light guiding layer 3a in a plane parallel to the reflective layer 4b. There is no teaching or suggestion in Yokoo to transmit light energy from the fibers so that the light energy is incident in a plane normal to the plane of the reflective layer as recited in the amended claims. Therefore, Yokoo does not provide the teaching necessary to render the amended independent claims unpatentable.

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Similarly, Chung does not provide any teaching or suggestion regarding the alignment of optical fiber in a backlight for a liquid crystal display. Chung is directed to a high brightness internal reflector for liquid crystal displays. The reference is directed only to a reflective layer having a micro-lenticular surface where successive layers of reflective material can be supported. There is no teaching or suggestion in Chung to transmit light energy from the fibers so that the light energy is incident in a plane normal to the plane of the reflective layer as recited in the amended claims. Therefore, Chung does not provide the teaching necessary to render the amended independent claims unpatentable.

Similarly, Sansom is directed to a fiber optic display device. Sansom teaches a fiber optic display device which includes a plurality of optical fiber with light emitting ends conforming to a movable display panel. Although the light emitting ends of the optical fiber are used as part of the display elements, the optical fiber, importantly, is not used to form a backlight nor are the optical fibers used in conjunction with a reflective panel. There is no teaching or suggestion in Sansom to transmit light energy from the fibers so that the light energy is incident in a plane normal to the plane of the reflective layer as recited in the amended claims. In fact, as stated above, Sansom does not even teach or suggest the use of reflective panels. Therefore, Chung does not provide the teaching necessary to render the amended independent claims unpatentable.

Similarly, Dumont is directed to an optical fiber diffuser. Dumont teaches a method for roughening the surface of the cladding and the core of the optical fiber for outwardly diffusing the light carried through the fiber. There is no teaching or suggestion in Dumont to transmit light energy from the fibers so that the light energy is incident in a

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plane normal to the plane of the reflective layer as recited in the amended claims. In fact, as stated above, Dumont does not even teach or suggest the use of reflective panels. Therefore, Dumont does not provide the teaching necessary to render the amended independent claims unpatentable.

Similarly, Faris is directed to a backlighting structure for liquid crystal displays. Faris teaches a backlighting structure with an array of spectral filtering elements for recycling the backlight for a liquid crystal display. Importantly, there is no teaching or suggestion in Faris to transmit light energy from the fibers so that the light energy is incident in a plane normal to the plane of the reflective layer as recited in the amended claims. In fact, as stated above, Faris does not even teach or suggest the use of optical fibers for a backlight purpose. Therefore, Faris does not provide the teaching necessary to render the amended independent claims unpatentable.

Similarly, Obuka is directed to optical fiber designed to reduce unnecessary propagation modes by forcing light in the cladding to radiate out of the optical fiber by roughening the cladding. Importantly, there is no teaching or suggestion in Obuka to transmit light energy from the fibers so that the light energy is incident in a plane normal to the plane of the reflective layer as recited in the amended claims. In fact, Obuka does not even teach or suggest the use of optical fiber in a backlight system for a liquid crystal display. Therefore, Obuka does not provide the teaching necessary to render the amended independent claims unpatentable.

None of the cited references teach or suggest transmitting light energy from the fibers so that the light energy is incident in a plane normal to the plane of the reflective

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layer, as recited in amended claims 16, 31 and 36. Therefore, any combination of the cited references similarly does not render the claims unpatentable.


For the foregoing reasons, applicants respectfully submit that claims 16, 31 and 36 are now in condition for allowance. Claims 17-30 and 32-35, by their dependency on amended independent claims 16 and 31, are similarly allowable. Early notice to that effect is earnestly solicited.

II. Conclusion

Applicants believe that all of the claims are now in a condition for allowance.

Early notice to that effect is earnestly solicited.

Respectfully submitted,

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Date: December 10, 2003
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